

Work Order ID 147976

Friday, June 17, 2016 8:00:49 AM

147976

U/R

OK 6/16/21

Page 1

Item ID: D4095-049

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Wearpad Aft

Start Date: 6/13/2016 Start Qty: 4.00

4

Cust Item ID:

Required Date: 6/21/2016 Req'd Qty: 4.00

4

Customer:

Reference:

JUN 20 2016

Approvals: Process Plan: MJS

Date:

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D4095	C								
100	FLOW WATER JET	0.00							
100									
Waterjet	Memo	0.03							
FLOW CNC Waterjet	1-Cut as per Dwg (D4095-9) Dwg Rev: <u>C</u> Prog Rev: <u>C</u> 2-Deburr if necessary								
110	QC2- Inspect parts off machine FAI/FAIB	0.00							
110									
QC	Memo	0.01							
Quality Control									
120	QC8- Inspect parts - second check	0.00							
120									
QC	Memo	0.01							
Quality Control									

(4)

DE 16/06/23

(4)

DE 16/06/23

(4)

16-06-21

DAS
9
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
						QC / QA Coordinator Approval			
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : ☐							
Misidentified ☐	Past Due ☐								

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Page 2

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 Start Date: 6/13/2016 Start Qty: 4.00 ***4*** Cust Item ID:
 Required Date: 6/21/2016 Req'd Qty: 4.00 ***4*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* Brake NC Brake NC	Form as per dwg NC BRAKE Memo	0.01 0.01			DAS 30 9-89	(4)			JUN 30 2016
140 *140* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.01				(4)			DAS 38 9-89 JUN 30 2016
150 *150* autoweld 1 Automated Welding 1	Weld per dwg & QSI004 4.5 Large Fab Memo ***SEE NOTE 10 FOR SURFACE BUILDUP*** 1- WELD AS PER DWG AND QSI004 4.5 FOR AUTOMATED WELDING USE 8259 HARDCOAT BATCH: <u>M134625</u>	0.00 0.27				4	EL	167-6	

DQA: _____ Date: _____

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Date :		Step #:		QTY Effective :			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
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Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
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Reference:

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Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC10- Inspect visual per QSI004- ground welds	0.00							
160									DAS
QC	Memo	0.01				(4)	16-07-07		9 9-89
Quality Control									
170	QC5- Inspect part completeness to step on W/O	0.00							
170									DAS
QC	Memo	0.01				(4)	16-07-07		9 9-89
Quality Control									
180		0.00							DAS
180									41 9-89
HandFinish	Memo	0.01				4			
Hand Finishing	COAT ENTIRE TOP (CONCAVE) SURFACE WITH ROCKGUARD AS PER DWG A/R ROCKGUARD BATCH: <u>135064</u>								16-7-7

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Date :		Step #:		QTY Effective :			MRB (QS1042) Approval				
Description Work Order Deviation				Disposition				Completed By			
Root Cause				FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐		No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	
OTHER : ☐											

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Page 4

Item ID: D4095-049

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Revision ID:

Stop ***NS2***

Item Name: Wearpad Aft

Start Date: 6/13/2016 Start Qty: 4.00

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Cust Item ID:

Required Date: 6/21/2016 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	QC3- Inspect Part Finish	0.00							DAS 38 9-89
190						(4)			
QC	Memo	0.01							
Quality Control									JUL 08 2016
200	Identify as per dwg & Stock Location: _____	0.00							
200						4			DAS 6 7-89
Packaging	Memo	0.01							JUL 08 2016
Packaging	LOCATION : FP001								
210	QC21- Final Inspection - Work Order Release	0.00							
210									16/7/12 JF
QC	Memo	0.07							
Quality Control									DAS 21 9-89

JUL 11 2016

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
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Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER :							

Picklist Print

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Page 1

Work Order ID: 147976

147976

Parent Item: D4095-049

D4095-049

Parent Item Name: Wearpad Aft

Start Date: 6/13/2016

Required Date: 6/21/2016

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP rev.A 11.11.07 new issue EC verified by:JLM
15.10.29 AUTOMATE WELDING DD VERF:JLM

IPP REV:B

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S16GA		Purchased		No			sf	242.8172		0.428			

M304S16GA

304/316 Sheet .063

Re 16/06/23

Location

Loc Qty

Loc Code

MAT010

164.67

m134677

6.07

m134982

158.6

TPI

78.14716

m134604

78.14716

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td style="border: none;"></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																	
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Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐																																																																						
Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐																																																																						
Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐																																																																						
Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐																																																																						
Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐																																																																						
				OTHER : ☐																																																																					

ITEM	QTY -041	QTY -043	QTY -045	QTY -047	QTY -049	QTY -051	PART NUMBER	DESCRIPTION
1	X						D4095-041	WEARPLATE ASSEMBLY
2		X					D4095-043	WEARPLATE ASSEMBLY
3			X				D4095-045	WEARPLATE ASSEMBLY
4				X			D4095-047	WEARPAD ASSEMBLY
5					X		D4095-049	WEARPAD ASSEMBLY
6						X	D4095-051	WEARPAD ASSEMBLY
7	1						D4095-1	WEARPLATE
8		1					D4095-3	WEARPLATE
9			1				D4095-5	WEARPLATE
10				1			D4095-7	WEARPAD
11					1		D4095-9	WEARPAD
12						1	D4095-11	WEARPAD

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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO 147-976 ML5
16-06-20

D4095-041/-043/-045/-047/-049/-051 NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: COAT ENTIRE TOP (CONCAVE) SURFACE WITH TEXTURED COATING 0.02-0.04 THICK, PER DART QSI 005 4.9
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4095-0XX" AND B/N "BXXXXX" USING REMOVABLE TAG PER QSI 044 6.6
- 7) WEIGHT: D4095-041 = 3.08 lbs; D4095-043 = 3.08 lbs; D4095-045 = 2.00 lbs; D4095-047 = 0.48 lbs; D4095-049 = 0.42 lbs; D4095-051 = 0.37 lbs
- 8) PARTS ARE SYMMETRIC ABOUT CENTERLINE

UNDER REVIEW

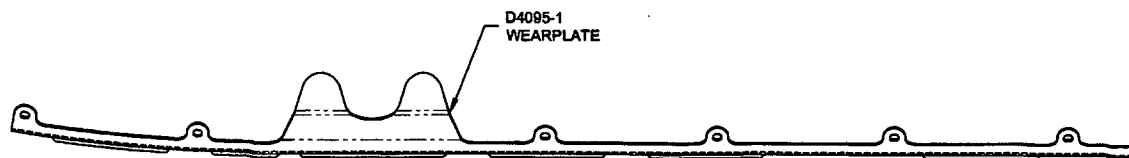
URF 16-572 ML

16.05.03

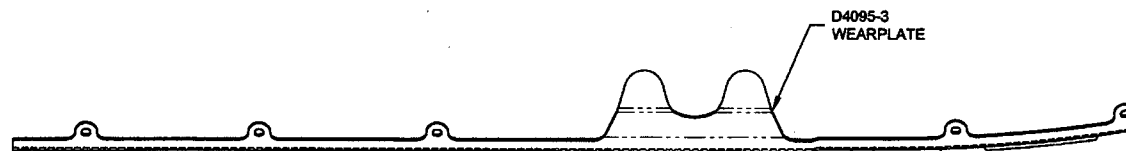
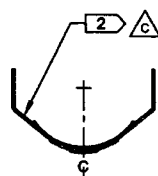
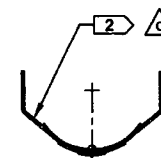
RELEASED
2016-01-11
ECN 16-504

C	8258 WELD ROD WAS 20598, 0.20 WELD THICKNESS WAS 0.25, MOVE DRAIN HOLE IN -1/-3, 0.9 WAS 2.00 (TYPO B4-9), ADJUST TOL. FOR MANUFACTURABILITY, NOTE 2 NOW REF'S QSI 005 4.9, UPDATE MAT'L SPEC	CP	16.01.06
B	REVISED D4095-1/-1F/3/3F; 4715 PLUS ONE ROCK-GUARD REPLACES D4095-1/-3; ADDED D4095-5/-7 -8/-11; REVISED HARDCOAT DESIGN; REVISED NOTE 2	XDF	11.10.18
A	NEW ISSUE	MB	10.04.20
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	16.01.06		

DART AEROSPACE USA, INC	
EUGENE, OR	
DRAWING NO. D4095	REV. C SHEET 1 OF 9
TITLE WEARPLATE	SCALE NTS
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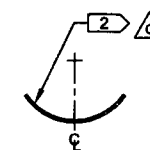
D4095-041 WEARPLATE ASSEMBLY



D4095-043 WEARPLATE ASSEMBLY



D4095-045 WEARPLATE ASSEMBLY



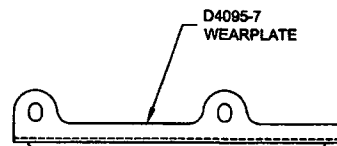
UNDER REVIEW

URF 16-572 ML

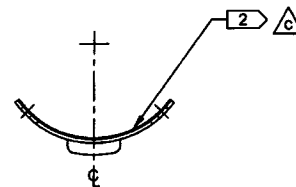
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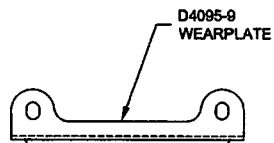
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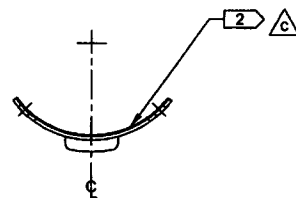
D4095-7
WEARPLATE



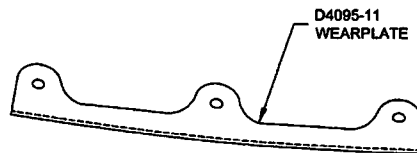
D4095-047 WEAR PAD ASSEMBLY



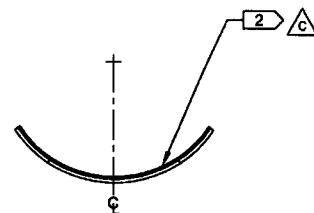
D4095-9
WEARPLATE



D4095-049 WEAR PAD ASSEMBLY



D4095-11
WEARPLATE



D4095-051 WEARPAD ASSEMBLY

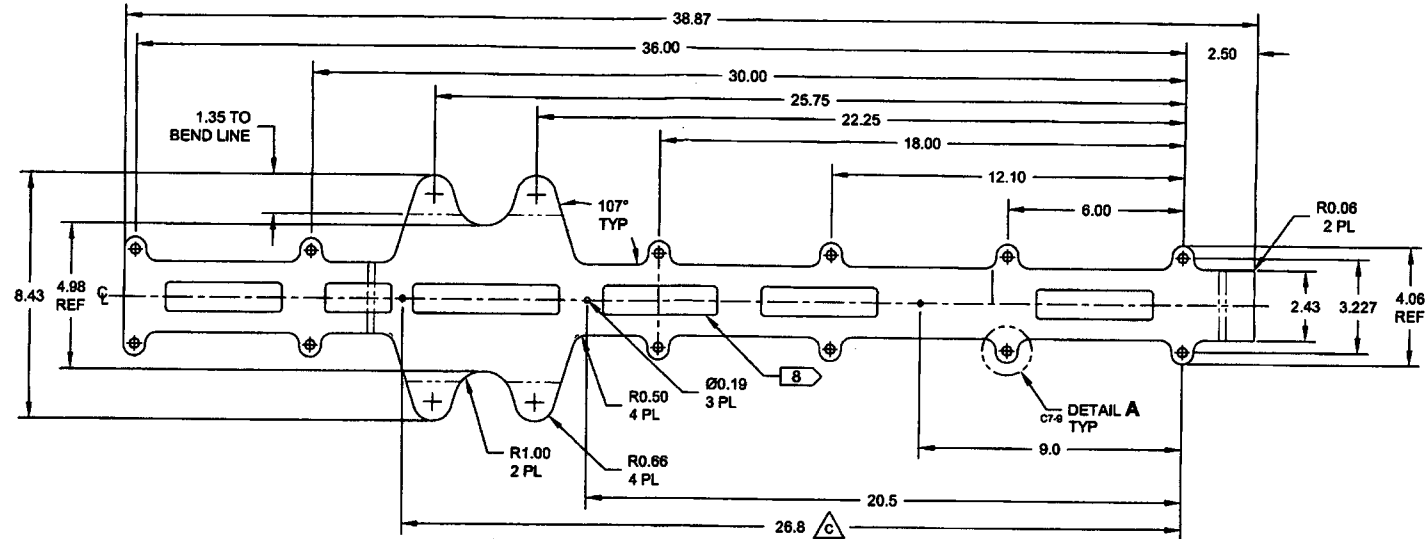
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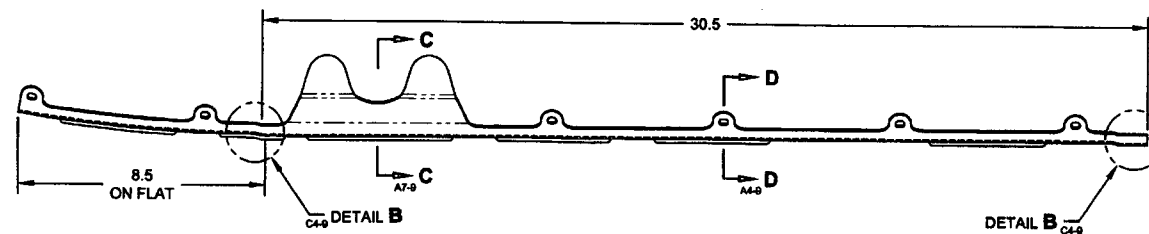
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D4095-1F FLAT PATTERN 1



D4095-1 BENDING DETAIL
(MAKE FROM D4095-1F)

D4095-1 NOTES:

1) MATERIAL: AISI 304/316 SS SHEET ANNEALED 2B FINISH, 16 GAUGE (0.063 THICK)
PER MIL-S-5059 OR AMS 5513 (304) OR AMS 5524 (316), OR ASTM A240
OR ASME SA240 REF DART MATERIAL SPEC M304S16GA

2) FINISH: NONE

3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED

4) UNITS: INCHES UNLESS OTHERWISE NOTED

5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX

6) IDENTIFICATION: N/A

7) WEIGHT: N/A

8) WELDING: BUILDUP HARD SURFACING 0.17 TO 0.20 THICK USING 8259 ROD PER QSI 004 SECTION 4.5

9) PARTS ARE SYMMETRIC ABOUT CENTERLINE

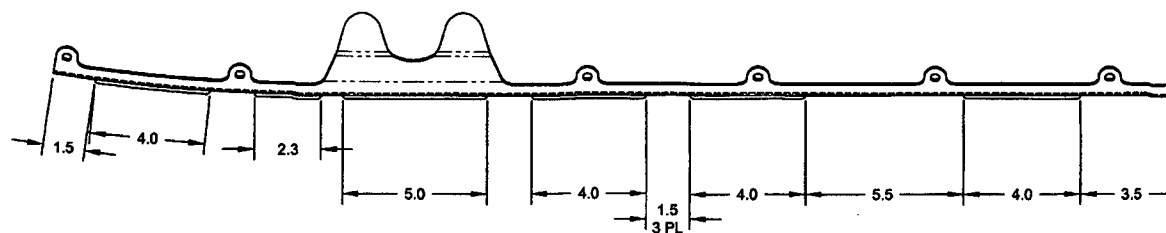
UNDER REVIEW

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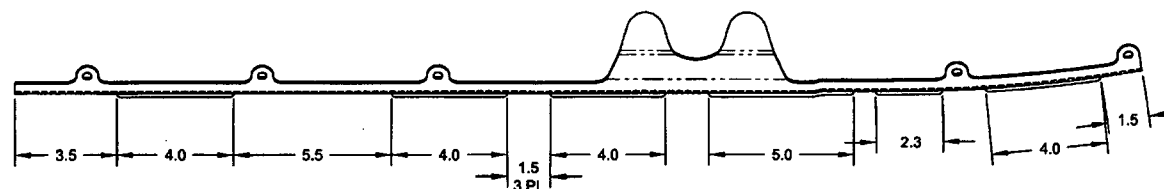
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D4095-1 WELDING DETAIL



D4095-3 WELDING DETAIL

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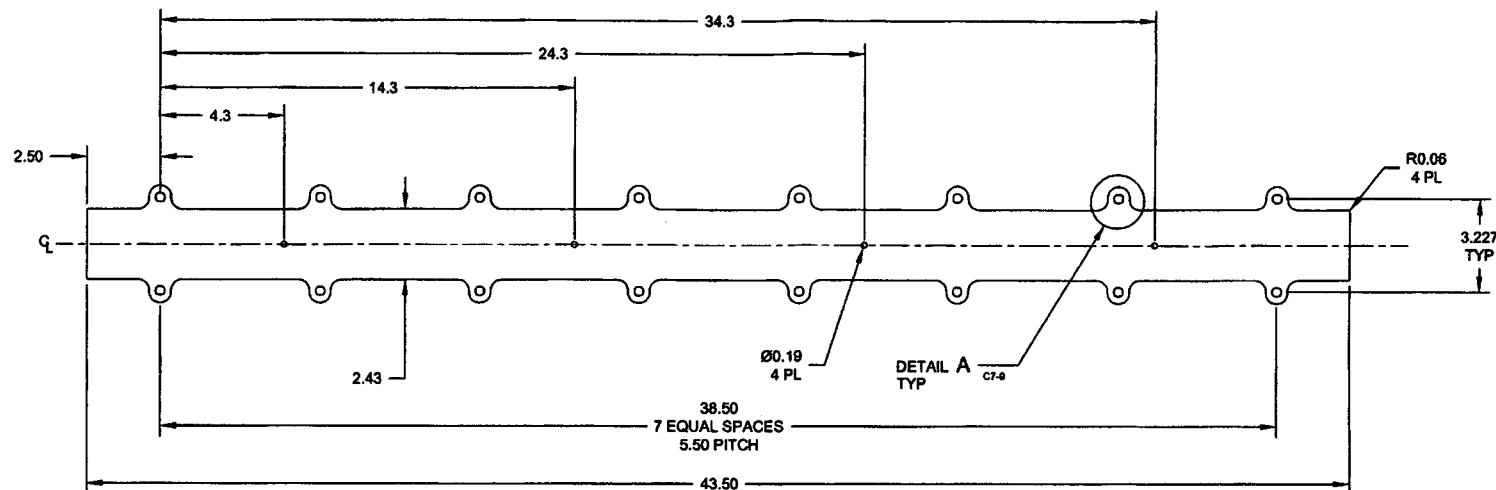
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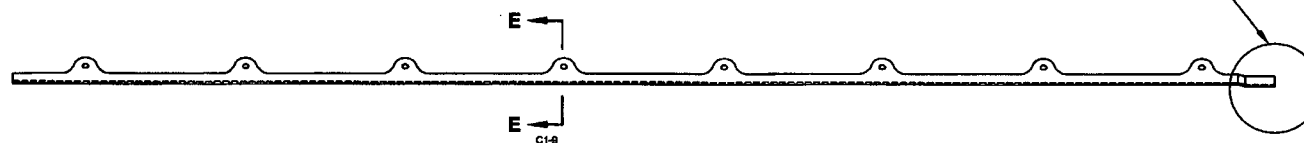
B

A

A



D4095-5F FLAT PATTERN 1



D4095-5 BENDING DETAIL
(MAKE FROM D4095-5F)

D4095-5 NOTES:

- 1) MATERIAL: AISI 304/316 SS SHEET ANNEALED 2B FINISH, 16 GAUGE (0.063 THICK)
PER MIL-S-5059 OR AMS 5513 (304) OR AMS 5524 (316), OR ASTM A240
OR ASME SA240 REF DART MATERIAL SPEC M304S16GA
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: N/A
- 8) WELDING: BUILDUP HARD SURFACING 0.17 TO 0.20 THICK USING 8259 ROD PER QSI 004 SECTION 4.5
- 9) PARTS ARE SYMMETRIC ABOUT CENTERLINE

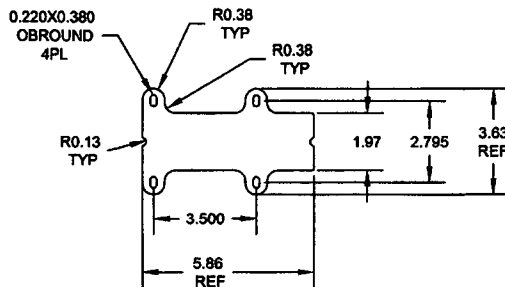
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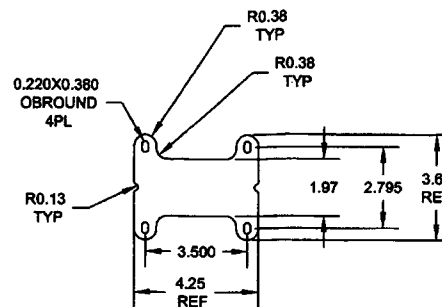
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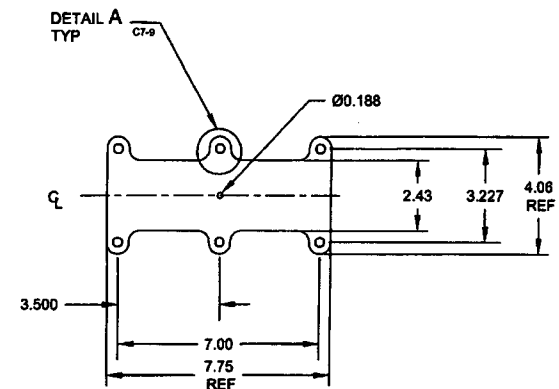
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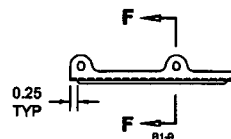
D4095-7F FLAT PATTERN 1



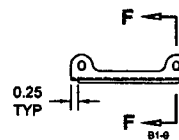
D4095-9F FLAT PATTERN 1



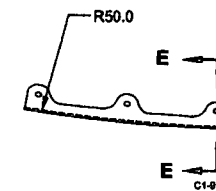
D4095-11F FLAT PATTERN 1



D4095-7 LONGITUDINAL BEND
(MADE FROM D4095-7F)



D4095-9 LONGITUDINAL BEND
(MADE FROM D4095-9F)



D4095-11 BENDING DETAIL
(MAKE FROM D4095-11F)

D4095-7/-9/-11 NOTES:

1) MATERIAL: AISI 304/316 SS SHEET ANNEALED 2B FINISH, 16 GAUGE (0.063 THICK)
PER MIL-S-5059 OR AMS 5513 (304) OR AMS 5524 (316), OR ASTM A240
OR ASME SA240 REF DART MATERIAL SPEC M304S16GA

2) FINISH: NONE

3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED

4) UNITS: INCHES UNLESS OTHERWISE NOTED

5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX

6) IDENTIFICATION: N/A

7) WEIGHT: N/A

8) WELDING: BUILDUP HARD SURFACING 0.17 TO 0.20 THICK USING 8259 ROD PER QSI 004 SECTION 4.5

9) PARTS ARE SYMMETRIC ABOUT CENTERLINE

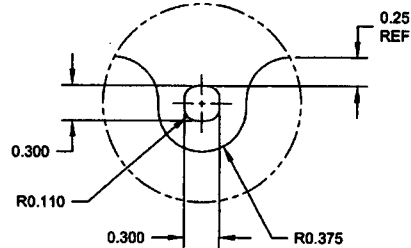
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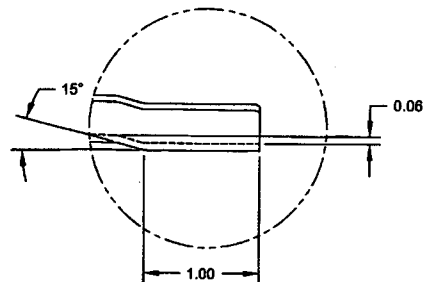
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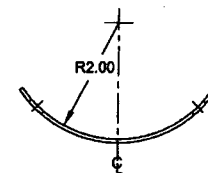
DETAIL A: TAB DETAIL

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G3-3
G8-6
D3-7
D2-8



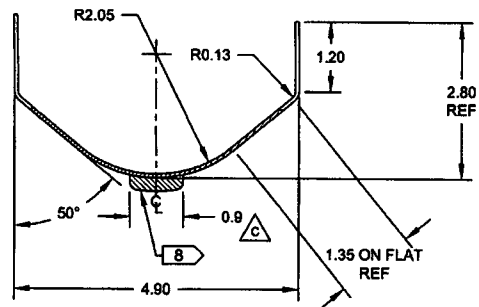
DETAIL B: JOGGLE DETAIL

SCALE 4X
B2-4
B6-4
B3-5
B2-7



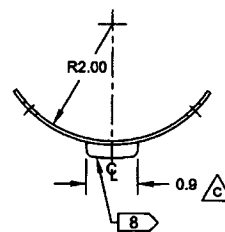
SECTION E-E

SCALE 2X
B5-7
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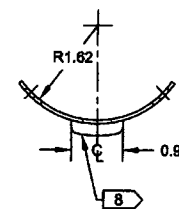
SECTION C-C

SCALE 2X
B5-4
B4-5



SECTION D-D

SCALE 2X
B4-4
B5-5



SECTION F-F

SCALE 2X
B5-8
B7-8

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16.05.03

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